

Notice of Allowability

Application No.

09/540,028

Examiner

Marc A Patterson

Applicant(s)

REIF ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/14/04.
2. ☒ The allowed claim(s) is/are 20-60,65 and 66.
3. ☒ The drawings filed on 31 March 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 9-14-04
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Klaus Stoffel on September 14, 2004.

The application has been amended as follows:

Cancel Claim 65, which currently reads as follows:

-- A plastic structural element, comprising: a fiber reinforced plastic material with a matrix – forming plastic; and at least one connecting part formed as an insert having a length embedded in the matrix forming plastic and a length that projects from the fiber reinforced plastic material to form a connecting point for attachment means, the insert exhibiting different values of at least one of elastic modulus and thermal expansion coefficients compared to the fiber reinforced plastic material, the plastic structural element exhibiting the following feature: the insert having at least one aperture through which at least one of reinforcing fibers, fiber strands and textile type materials are looped and are embedded in and intermittently joined to the plastic matrix of the plastic structural element at its free end so as to anchor the insert in the plastic material. --

and substitute Claim 65 as follows:

-- A plastic structural element, comprising: a fiber reinforced plastic material with a matrix – forming plastic; an insert having a length embedded in the matrix – forming plastic and

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a length that projects from the fiber reinforced plastic material whereby the length of the insert that projects from the fiber reinforced plastic material forms a connection for connecting attachment means, the insert exhibiting different values of at least one of elastic modulus and thermal expansion coefficients compared to the fiber reinforced plastic material; and a plastic coupling layer arranged on a surface of the insert to join the insert to the fiber reinforced plastic material, the coupling layer being an intermediate layer of fiber reinforced plastic, the fibers of which are not embedded in the matrix – forming plastic of the plastic structural element, the coupling layer being of a material different from the fiber reinforced plastic material of the plastic structural element, and having a volume fraction of fibers, type of fibers, length of fibers and alignment of fibers or fiber layers so that at least one of the elastic modulus and the coefficient of thermal expansion changes through the coupling layer whereby the elastic modulus and coefficient of thermal expansion between the fiber reinforced plastic material and the insert are equilibrated so that differences in at least one of the elastic modulus and the coefficient of thermal expansion at an interface between the fiber reinforced plastic material and the insert are minimized; and the plastic structural element exhibiting the following feature: the insert having at least one aperture through which at least one of reinforcing fibers, fiber strands and textile type materials are looped and are embedded in and intermittently joined to the plastic matrix of the plastic structural element at its free end so as to anchor the insert in the plastic material. --

Cancel Claim 66, which currently reads as follows:

-- A plastic structural element, comprising: a fiber reinforced plastic material with a matrix – forming plastic; and at least one connecting part formed as an insert having a length

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embedded in the matrix – forming plastic and a length that projects from the fiber reinforced plastic material to form a connecting point for attachment means, the insert exhibiting different values of at least one of elastic modulus and thermal expansion coefficients compared to the fiber reinforced plastic material, the plastic structural element exhibiting the following feature: the imbedded length of the insert is one of strip – shaped and finger – shaped with a plurality of strips or fingers configured so as to reduce a geometrical movement of inertia of the embedded length, the strips or fingers one of lie parallel, are comb – like and are fan – shaped. –

and substitute Claim 66 as follows:

-- A plastic structural element, comprising: a fiber reinforced plastic material with a matrix – forming plastic; an insert having a length embedded in the matrix – forming plastic and a length that projects from the fiber reinforced plastic material whereby the length of the insert that projects from the fiber reinforced plastic material forms a connection for connecting attachment means, the insert exhibiting different values of at least one of elastic modulus and thermal expansion coefficients compared to the fiber reinforced plastic material; and a plastic coupling layer arranged on a surface of the insert to join the insert to the fiber reinforced plastic material, the coupling layer being an intermediate layer of fiber reinforced plastic, the fibers of which are not embedded in the matrix – forming plastic of the plastic structural element, the coupling layer being of a material different from the fiber reinforced plastic material of the plastic structural element, and having a volume fraction of fibers, type of fibers, length of fibers and alignment of fibers or fiber layers so that at least one of the elastic modulus and the coefficient of thermal expansion changes through the coupling layer whereby the elastic modulus and coefficient of thermal expansion between the fiber reinforced plastic material and the insert

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are equilibrated so that differences in at least one of the elastic modulus and the coefficient of thermal expansion at an interface between the fiber reinforced plastic material and the insert are minimized; and the plastic structural element exhibiting the following feature: the embedded length of the insert is one of strip – shaped and finger – shaped with a plurality of strips or fingers configured so as to reduce a geometrical movement of inertia of the embedded length, the strips or fingers one of lie parallel, are comb – shaped and fan – shaped.

2. The following is an examiner's statement of reasons for allowance: The prior art of record discloses a plastic structural element comprising a fiber reinforced plastic material having an embedded insert, but fails to disclose a insert exhibiting different values of at least one of elastic modulus and thermal expansion coefficient compared to the fiber reinforced plastic material, and a plastic coupling layer which is an intermediate layer of a different material from the fiber reinforced plastic material of the plastic structural element, in which at least one of the elastic modulus and the coefficient of thermal expansion changes through the coupling layer whereby the elastic modulus and the coefficient of thermal expansion between the fiber reinforced plastic material and the insert are equilibrated so that differences in at least one of the elastic modulus and the coefficient of thermal expansion between the fiber reinforced plastic material and the insert are minimized. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Patterson, whose telephone number is (571) 272 – 1497. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (571) 272 – 1498. FAX communications should be sent to (703) 872-9310. FAXs received after 4 P.M. will not be processed until the following business day.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pairedirect.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217 – 9197 (toll – free).

Marc A. Patterson, PhD.

Marc Patterson
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Harold Pyon
HAROLD PYON
SUPERVISORY PATENT EXAMINER
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9/15/04